

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

IADDIC Shelters, LLC

Texas Manufacturing Assistance Center

IADDIC Shelters and Lean Design Work to Solve Global Problem

Client Profile:

IADDIC Shelters LLC provide housing for the "houseless." Their product line of affordable, durable dwellings supplies disaster victims and urban renewal projects with a solid-structure housing solution which offers superior privacy and weather protection compared to temporary accommodations such as tents and tarps. The shelters are manufactured from a chemically treated foam, and they can be collapsed and packaged in vacuum-sealed bags for optimal storage and transportation. Once in the field, they are easily deployed and quickly cure to a sturdy structure. IADDIC employs 5 people at its facility in Irving, Texas.

Situation:

IADDIC dwellings are the easiest to erect, longest lasting, overall least expensive dwellings available; however, the path to these accomplishments required significant design and research. In the process of developing a prototype, CEO Rich Grabowski, realized that in order to impact the most people he needed an efficient design that not only kept manufacturing cost low but also provided a quality product. A colleague connected with the Automation and Robotics Research Institute at University of Texas at Arlington recommended that he contact the Texas Manufacturing Assistance Center (TMAC), a NIST MEP network affiliate, for their industry knowledge and experience in product development.

Solution:

TMAC conducted a Lean design analysis whereby the product was deconstructed into its functional requirements and scrutinized for candidate designs and fabrication processes. One of the many ideas generated in this exercise was the possibility of molding the shell in a single piece, rather than assembling it from cut pieces of sheet stock. Following the lean design methodology, this concept was investigated further in the second phase of the project/automation assessment and equipment survey; TMAC identified foam molding equipment manufacturers in the local area to approach, and ultimately establish whether this was a feasible route given the shelter characteristics and dimensions. In time, this sequence of events would result in a completely new direction in producing IADDIC shelters, which has substantially lower complexity and part count needed for high-volume production. In the final stage, a conceptual factory layout was delivered outlining equipment configuration and workflow in order to optimize production.

Results:

- * Reduced material and labor cost by 30 percent.
- * Estimated savings of \$400,000 in unnecessary investment.
- * Created 20 new jobs.

Testimonial:

www.mep.nist.gov



NIST is an agency of the U.S. Department of Commerce

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

"Texas Manufacturing Assistance Center did a phenomenal job. The contributions they made to our product design and business were not just evolutionary but revolutionary. This is going to allow us to do what we want to do; provide a quality dwelling at an affordable price."

Rich Grabowski, CEO